



A quarterly electronic publication from the

NASA Scientific and Technical Information (S T I) Program

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NASA Commercial Technology Network (NCTN)



October 2001

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...From the NASA S T I Program's Principal Center



Message from the NASA S T I Program

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NASA Commercial Technology Network (NCTN) We send our condolences to those affected by the events of September 11 and our thanks to those who have worked so hard to help in its aftermath. Let us strive to meet each day with renewed strength and purpose, handle our work with professionalism, our personal lives with love, value and protect the information that we are entrusted to preserve, hoping it will be used for positive benefit. Now it is time to "roll up our sleeves" and successfully meet what lies ahead.

Marshall Technical Library Closed

The Marshall Technical Library permanently closed its doors for service on September 28, 2001. Any document(s) that were ordered for patrons that were not received by this date will be forwarded to the patron through the Center-wide mail system. All document orders should now be referred to the Redstone Scientific Information Center (RSIC) (http://rsic.redstone.army.mil) for processing. We would like to take this opportunity to thank the Marshall Technical Library for the many years of service that it provided to NASA.

New S T I Online Order Forms

The NASA S T I Program's Center for AeroSpace Information (CASI) now offers secure online forms for ordering S T I documents and videos. These are VeriSign(TM) secure forms that allow users to place an order directly online and receive a temporary order confirmation number. The order is then processed, and an official order confirmation e-mail is sent to the user with the permanent order number, and acknowledgment that the order is entered into CASI's system. To access the new forms, visit http://www.sti.nasa.gov and select the "Order S T I" button in the sidebar. From there, choose either the "S T I Order Form" or the "Video Order Form" link. Although the new secure forms are now the best way to order from CASI, the PDF version of the forms is still available for users that would prefer, or are paying by check, to fax or mail their order.

Access to Scholarly Journals Online

Nearly everyone doing research desires access to the scholarly journals online. However, other than librarians, most do not realize the cost of these online journal services. The Cornell University Engineering Library developed an exhibit to make their users aware of the costs. On their website, http://www.englib.cornell.edu/displays/stickershock/, they point out:

"Believe it or not, you could own this brand new Toyota Corolla, complete with air conditioning and a three-year warranty, for the same price as the library's yearly subscription to the Journal Applied Polymer Science."

According to the site, the subscription for the Journal is \$12,495.00.

NASA Technical Standards Program

Technical Standards have been an integral part of NASA Programs and Projects developments and operations since the Agency was established in 1959. However, for years each Center was responsible for its own development and selection of non-NASA technical standards that met the needs of Programs and Projects for which they were responsible. There were few "Agency-wide" applicable Technical Standards, mainly those in the area of safety. Department of Defense Standards and Specifications were the foundation and main source for Technical Standards used by the Agency. This process existed until about 1997 when NASA embarked on a Program to convert NASA's Center-developed Technical Standards into Agency-wide endorsed NASA Preferred Technical Standards and the formal adoption of non-NASA Technical Standards (DOD, SAE, ASTM, ASME, IEEE, etc.) as NASA Preferred Technical Standards.

Technical Standards are important to the Agency for many reasons. For example, they are used in contract proposal reviews to verify inputs, in-house design and development actions, supporting contractor use, to capture lessons learned and new technology, and to maintain engineering excellence in research and development and operations. They provide a common base for interoperability.

As noted by Greg Saunders, Director of the Department of Defense Standardization Program Office, interoperability and standardization are connected just as thunder and lightning. Lightning causes thunder and the "right" type of standardization and standards results in the interoperability the Agency needs to win on the development and operation of spacecraft and associated instrumentation.

The NASA Technical Standards Program now has several essential elements. They include the development of NASA-unique Technical Standards; formal adoption of non-NASA Technical Standards, especially those developed by Voluntary Consensus Standards Developing Organizations; conversion of NASA's Center-developed Technical Standards and, of considerable importance to the Agency's Programs and Projects, the development of NASA's Integrated Technical Standards Initiative. This unique Initiative resulted from interactions with many Managers and staff members of NASA Programs and Projects, plus individual engineering staff members of the Centers. The three focal points of the Initiative consist of the Agency-wide Full-text Technical Standards System, Standards Update Notification System, and the Lessons Learned/Best Practices/Application Notes - Integrated Standards System. All of these Systems have been implemented and their further development and enhancement to meet the Agency's engineering needs continues as experience and feedback are obtained from the users. Anyone within the "nasa.gov" domain can access the Systems at the NASA Technical Standards Program Website: http://standards.nasa.gov. The NASA Technical Standards Program Office is sponsored by the NASA Chief Engineer and managed by Mr. Paul Gill.

World Wide Support Shown to NASA's S T I Program

That the World Trade Center has 'world' as the first part of its name is no coincidence. After the horrendous attack on the Twin Towers at the World Trade Center, and on the Pentagon, condolences from our customers around the globe have come to CASI, some of which follow.

A French company which provides standards support wrote:

"We are really concerned about the horrible crime that happened yesterday in your country. We want to let you know that we are sincerely thoughtful [sic] of all the American [sic] people and share your grief today. We hope that all your relatives and friends have escaped this nightmare and are safe."

In addition, a French attaché in Washington sent this message:

"Dears friends,

Following the terrible tragedy the country recently endured, I am sending you this e-mail in hopes that you, your family and your colleagues are doing well. Knowing how close some of you work to the attacks, I sincerely hope that no harm came to you or to your loved ones. It is hard to comprehend that this tragic act of hatred and horror could become a reality in this very country that promotes democracy and freedom. My thoughts are with you in this time of national mourning.

New York City [sic], Washington DC, the USA and the world are different today. The world has lost some innocence. I am confident that this country, united as always, will rise one more time to the challenge. I hope it will, with the help of its friends and allies, put an end to international terrorism.

Please forward to your family and colleagues my sympathy and support in this difficult time.

I hope to have the pleasure to talk to you again soon, in better circumstances."

A student from Sri Lanka (formerly Ceylon) expressed his sympathy:

"I'm student from Sri Lanka who loves to know information about NASA. But I heard the explosion happen in the WORLD TRADE CENTER ... (New York) and the other buildings and I heard that lot of people were died in this terrible Terrorist [sic] attack and [saw] the whole story in [sic] TV. First, I would like to give my kind sympathy for the people in U.S.A. I am so sorry about this situation. I pray for God to give you all the strength to face this problems [sic]."

CASI is known worldwide as a source of NASA S T I, and it is clear from the geographic dispersion of the writers, that the S T I Program is known and respected in many countries. CASI stands ready to serve the scientific and technical needs of the nation and of its friends around the world.



...S T I Program Plan



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In part, the NASA S T I Program Plan states, "The NASA Scientific and Technical Information Program is an integral part of NASA's future. The program supports the Agency's missions to communicate scientific knowledge and understanding to help transfer NASA's research and development to the aerospace and academic communities. By ensuring a fast, two-way process of internal and external information exchange, the S T I Program helps NASA avoid duplication of research, time, and cost and to make its wealth of information available to benefit its customers. Each Center is responsible for acquiring, tracking, and producing, or having produced, NASA S T I related to their Center mission; and for ensuring that Center S T I reaches the S T I Database [at the NASA Center for AeroSpace Information]."

To that end, each NASA Center executes the S T I Program mission and objectives by way of a team of individuals that applies professional publishing standards to all scientific and technical information passing through its doors. Whether the information will result in a document to be distributed through the traditional print and mail process or an electronic document available on the Internet-or both-the team is responsible for making it happen, going through the process step-by-step with each customer. For information about the S T I Program at any NASA Center, visit http://www.sti.nasa.gov.



...The NASA Commercial Technology Program An Overview



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NASA Commercial
Technology
Network (NCTN)

The NASA Commercial Technology Program encompasses a national network of specialized centers and organizations that assist U.S. businesses and industry in accessing, utilizing and commercializing NASA-funded research and technology. The organizations work closely with each other to provide a full range of technology transfer and commercialization services and assistance. The NASA Commercial Technology Network (NCTN) consists of the Commercial Technology Organizations at each of the NASA field centers, the Jet Propulsion Laboratory, the National Technology Transfer Center (NTTC), the six Regional Technology Transfer Centers (RTTCs), NASA Tech Briefs, UNISPHERE, and other specialized organizations and services. All are dedicated to fostering dual-use technology partnerships and the transfer and commercialization of NASA-sponsored research and technology.

The NCTN provides access to a wide variety of information resources that can be searched and consulted for research and technology, patents, technical expertise, and R&D facilities, as well as for technology partnering, licensing, and commercialization opportunities. In addition to serving as an integrated information resource, the NCTN is developing into an electronic marketplace for NASA-sponsored technology, facilitating communications, transactions, and partnerships between NASA and the U.S. private sector.

Visit the NCTN website at http://nctn.hq.nasa.gov for more information on the NASA Commercial Technology Program and the members of its network.



...From the NASA History Office



New NASA History Publications

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NASA Commercial Technology Network (NCTN) NASA has just released Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume V, Exploring the Cosmos (NASA SP2001-4407, 2001), produced under the general editorship of John M. Logsdon. The volume contains documentary materials on the origins, evolution, and organization of the space science enterprise at NASA, the history of planetary exploration, and solar-terrestrial physics. A future volume will contain documentary materials on astronomy and astrophysics, microgravity and life sciences, solar science, and Earth science. This book is available for purchase from the U.S. Superintendent of Documents. You may order on-line by accessing the Government Printing Office homepage at http://bookstore.gpo.gov/index.html on the Web. Order publication number: 033-000-01238-1.

A recent addition to the "New Series in NASA History" is Taking Science to the Moon: Lunar Experiments and the Apollo Program, by Donald A. Beattie (Baltimore, MD: Johns Hopkins University Press, 2001), Hardcover - 336 pages, ISBN: 0-8018-6599-9, Price \$42.50. The advertising copy for this work states: "This is a well written, clearly argued book on a topic of very considerable interest to working earth and planetary scientists, historians of science, and spaceflight 'buffs,' as well as an informed public. The science performed during and in preparation for the Apollo missions has drawn relatively little attention given its scope, the number of people involved, and the importance of the results secured. Hence, this work helps to fill a surprising gap in the literature, as well as adding a very interesting voice to the existing material on the workings of NASA in the 1960s and early 1970s." Robert Smith, University of Alberta, Canada. This book may be ordered from http://www.press.jhu.edu/press/books/ordering/index.htm on-line or by calling 1-800-537-5487.

Forthcoming NASA History Publications

Forthcoming is Uplink/Downlink: A History of the Deep Space Network (NASA SP2001-4225, 2001), by Douglas J. Mudgway. The book will describe and analyze the complex history of the Deep Space Network (DSN) from its origins, as a result of the early years of the planetary science program in the late 1950s, through its current role as the most capable communications system in the world. It will assess the role of this critical

communications method for both providing control to planetary probes and a means of obtaining the scientific data collected. This book should be available in late 2001. Stay tuned for more information about this work.

Forthcoming in October 2001 is Howard E. McCurdy's latest study appearing in the "New Series in NASA History," Faster, Cheaper, Better: Low-Cost Innovation in the U.S. Space Program (Johns Hopkins University Press, 2001). This short historical study analyzes the efforts within NASA to change its method of doing business in the 1990s. It is coming to a bookstore near you so stay tuned for more information about this work.

In addition, forthcoming in October 2001 is Imagining Space: Achievements, Predictions, Possibilities, 1950-2050 (Chronicle Books, 2001). Written by Roger D. Launius and Howard E. McCurdy, this book uses the last fifty years in spaceflight to explore future possibilities. In 1949 Willy Ley wrote the classic work, The Conquest of Space, describing what he thought would happen in the next fifty years in space exploration, based upon what had already taken place up to that time. This book, in many respects, is a continuation of that earlier effort. The first part of it focuses on the predictions made about space exploration over the last fifty years and will analyze what was predicted and achieved, what was achieved but not predicted, and what was predicted but not achieved. The remainder of the book discusses the prospects for the future, looking out fifty years. It is coming to a bookstore near you so stay tuned for more information about this work.

Also appearing in the fall is Shuttle-Mir: The U.S. and Russia Share History's Highest Stage (NASA SP-2001-4225, 2001), written by Clay Morgan. This is a popularly written illustrated history of the Shuttle-Mir project, produced at the Johnson Space Center.

Appearing near the end of the year will be On the Frontier: Flight Research at Dryden, 1946-2000 (NASA SP-2001-4315, 2001), by Richard P. Hallion and Michael H. Gorn. This work is a revision of a 1984 NASA History Series publication about the Dryden Flight Research Center. It includes additional chapters and revisions to earlier material.

Finally, the program will also be publishing Peter W. Merlin's monograph, Mach 3+: NASA/USAF YF-12 Flight Research, 1969-1979 (NASA SP-2002-4525, 2002). This is a study of the use of the YF-12/SR-71 in flight research at the Dryden Flight Research Center.

New NASA Historical Information On-Line

The Great Images in NASA (GRIN) photo database is now on-line at http://grin.hq.nasa.gov. The database contains more than 1,000 searchable images. Available in four formats, the images are suitable for everything

from quick reference to publishable 300 dpi high-resolution photos. Everything is available electronically and free of charge. To get started, we suggest reading the information at http://grin.hq.nasa.gov/howtouse.html. Please note that we intend to add images, but feel free to let us know, at histinfo@hq.nasa.gov, if you find errors or have suggestions. Special thanks to a variety of folks, but especially Michael Hahn, Dwayne Day, Erin Needham, and John Betts for getting this system up and running.

Skylab: Our First Space Station (NASA SP-400, 1977), edited by Leland F. Belew, and Skylab: A Guidebook (NASA EP-107, 1973), by Leland F. Belew and Ernst Stuhlinger are now on-line at http://history.nasa.gov/SP-400/sp400.htm and http://history.nasa.gov/SP-400/sp400.htm and http://history.nasa.gov/EP-107/ep107.htm on the web, respectively. A very special thanks to Chris Gamble, who scanned and set up these attractive and informative books for the web.

We are pleased to offer several useful NASA and contractor documents that cover the evolution of space suits from Project Mercury to the Space Shuttle. These documents about space suits were assembled into a single PDF file at http://history.nasa.gov/spacesuits.pdf on the web. The 1973 report of the NASA Investigation Board Report on the Initial Flight Anomalies of Skylab 1 covers the loss of the meteoroid shield and a solar array that caused other problems on the first Skylab mission. It is available at http://history.nasa.gov/skylabrep/SRcover.htm on the web. Special thanks to Dirk Stoffels for his work formatting the report for the web. Please note that the site includes TIFF images so you may need to check the configuration of your browser software.



...From NASA's Goddard Space Flight Center



Library's 40th Anniversary Celebration and Open House

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NASA Commercial Technology Network (NCTN) The Library held its 40th Anniversary Celebration on May 2. The event, entitled 40 Years of Library Innovation, was a fitting theme to highlight the Library's many transformations and improvements over the years while improving access to Library resources and responding to the information needs of Center researchers and scientists.

Ms. Janet Ormes, Assistant CIO for Library and Information Services and Head, Library Information Services Branch, began the festivities with the opening remarks. Ms. Alison McNally, Director, Code 200 Management Operations Directorate, made the welcoming address. GSFC Center Director, Mr. Al Diaz, also attended and was present to hear Keynote Speaker, Professor Robert Allen, of the University of Maryland, College of Library Studies, give a presentation on Digital Libraries. Past and current Library Council Chairs and Members were invited and acknowledged as part of the Library's 40th Anniversary event.

The Then/Now posters portraying the Library's Innovations Displays were very well received. Celebration attendees showed intense interest in these exhibits and received personalized demonstrations of the new (Now) products/services. In addition, Library staff demonstrated several new, wireless technologies with potential applicability to the new Goddard Digital Library. These tools are envisioned as part of the Goddard Digital Library of the future, as the Library seeks to employ high tech solutions in the delivery of Library information to Center users.

Library staff also arranged a display of historical Goddard Library artifacts and a photographic display of staff from various projects in the Library's 20+ year history of contracting. Regular Library services were provided during the event.

Library Hosts Intern

The GSFC Library is currently hosting an intern selected through the GSFC Education Office Intern Program. Patrick Healey, from Fairbanks, Alaska, will be receiving his Masters of Library Science degree from Wayne State University in December. During his 12-week internship, Patrick is working on several projects in the Library, including adding content to the digitized Webcast Goddard Colloquia Archive and planning for a customizable portal, or MyLibrary, interface to the Library's Web content.

New Contractor Selected

A new contractor has been selected to support the GSFC Library. Information International Associates, Inc. (IIA), with a subcontract to Zimmerman Associates, Inc. (ZAI), will be providing support services to the Library for the next five-year period. The contract began on September 19.



...From NASA's Spinoff Magazine



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NASA Commercial Technology Network (NCTN) NASA's premier publication, *Spinoff*, annually features over 40 companies that have successfully utilized NASA technology in commercial products and processes. Each year NASA distributes tens of thousands of *Spinoffs* through trade shows, conferences, and special requests. The *Spinoff* web site, located at http://www.sti.nasa.gov/tto, contains a searchable database, which includes an entry for every article ever featured. If you are familiar with companies that have successfully commercialized NASA technology and may be interested in this unique opportunity, please contact the *Spinoff* editors, Ms. Michelle Birdsall, (mbirdsall@sti.nasa.gov or (301) 621-0244) or Mr. James Janvier, (jjanvier@sti.nasa.gov or (301) 621-0242).

To receive a printed copy of *Spinoff*, please contact the National Technology Transfer Center (NTTC) at (800) 678-6882, or visit the NTTC web site at http://www.nttc.edu.

Special Feature: Excerpts from the Online Technology Commercialization Handbook

For additional information go to: http://www.nctn.hq.nasa.gov/division/commtechhandbook3_19.pdf

Type	of	Agreemen	t

- Reimbursable Space Act Agreement
- Nonreimbursable Space Act Agreement
- Memorandum of Understanding (MOU)/ Memorandum of Agreement (MOA)
- Cooperative Agreement

Primary Use

Agreement with public/private entity to use NASA facilities, personnel, exper-tise or equipment to advance its own R&D efforts.

A collaborative effort of mutual benefit in which NASA and the entity contribute facilities, personnel, expertise or equip-ment. No transfer of funds.

Domestically, sometimes used to document a statement of policy, practice, intention or accomplishment affecting NASA and a domestic partner. Internationally, an MOU engages NASA and an international partner in a significant activity.

Jointly funded research effort with a public purpose, such as, to stimulate and support development of innovative new technologies and products for dual-use applications or commercialization.

Other Features

NASA is reimbursed or paid in advance for each stage of the effort. NASA may not compete with the private sector.

Supports industry needs and shares results in a collaborative effort.

International MOUs are enforceable under international law. However, normally NASA does not transfer technology to foreign entities.

Substantial involvement between NASA and the recipient is required. Cost sharing or in-kind contributions required by the partner. Governed by the NASA Office of Procurement. Grant

An assistance instrument to accomplish a public purpose of support or stimu-lation authorized by Federal stature (e.g., scientific research at universities and non-profit organizations), where no substantial involvement between NASA and the recipient is required.

Governed by the NASA Office of Procurement.

• Joint Sponsored Research Agreement (JSRA) Jointly funded R&D collaboration with

Individual companies or consortia to advance NASA's mission-related projects, to enhance U.S. industry's global competitiveness, or to commercialize aerospace technology. NASA may provide funds, services, facilities, equipment, information, intellectual property, or personnel.

by the industry partner is required and must be reasonable in proportion to NASA's commitment. (see the Program Information Package (PIP) available at NASA Commercial Technology Offices).

Cash or in-kind contribution

 Cooperative Research and Development Agreement (CRADA). Agreement between a Federal Laboratory and the private sector to transfer federally funded technology to the private sector. Federal lab can provide personnel, services, facilities, equipment or other resources with or without reimbursement.

Federal Lab may accept, retain and use funds, personnel, services and property from a CRADA partner and provide personnel, services and property to a CRADA partner. Government may grant in advance to a CRADA partner, patent licenses or assignments in inventions made by a lab employee under the CRADA.